

## CLAIMS

I claim:

1. An oscillatory amusement ride, which comprises:
  - a housing having a bore, a closed first end containing an aperture, a second end, and a side;
  - a piston slidably mounted within the bore;
  - a holder for a participant; and
  - a means for transferring force between said piston and said holder passing through the aperture in the closed first end of said housing, wherein said housing is capable of retaining a compressed fluid between the closed first end and the piston for at least one oscillation of the piston.
2. The oscillatory amusement ride as recited in claim 1, wherein:
  - said housing contains an aperture in the side of said housing communicating with the atmosphere and with the bore of said housing.
3. The oscillatory amusement ride as recited in claim 2, further comprising:
  - a fluid supply valve between said piston and the first end of said housing.
4. The oscillatory amusement ride as recited in claim 3, further comprising:
  - a separate supply valve located between the piston and the first end of said housing.
5. The oscillatory amusement ride as recited in claim 1, further comprising:
  - a fluid supply valve between said piston and the first end of said housing.
6. The oscillatory amusement ride as recited in claim 5, further comprising:
  - a separate supply valve located between the piston and the first end of said housing.
7. The oscillatory amusement ride as recited in claim 2, further comprising:
  - a second housing having a bore, a closed first end containing an aperture, a second end, and a side;
  - a piston slidably mounted within the bore of said second housing; and
  - a means for transferring force between said piston and said holder passing through the aperture in the closed first end of said second housing, wherein said second housing is

capable of retaining a compressed fluid between the closed first end of said second housing and the piston within said second housing for at least one oscillation of the piston within said second housing and wherein said second housing contains an aperture in the side of said second housing communicating with the atmosphere and with the bore of said second housing.

8. The oscillatory amusement ride as recited in claim 7, wherein:

said force transferring means associated with said housing and said force transferring means associated with said second housing are rotatably attached to said holder.

9. The oscillatory amusement ride as recited in claim 4, further comprising:

a second housing having a bore, a closed first end having an aperture, a second end, and a side;

a piston slidably mounted within the bore of said second housing; and

a means for transferring force between said piston within said second housing and said holder passing through the aperture in the closed first end of said second housing, wherein said second housing is capable of retaining a compressed fluid between the closed first end of said second housing and the piston within said second housing for at least one oscillation of the piston within said second housing and wherein said second housing contains an aperture in the side of said second housing communicating with the atmosphere and with the bore of said second housing;

a fluid supply valve between said piston within the bore of said second housing and the first end of said second housing; and

a separate supply valve located between the piston within the bore of said second housing and the first end of said second housing.

10. The oscillatory amusement ride as recited in claim 9, further comprising:

a movable platform from which a participant can jump or fall.

11. The oscillatory amusement ride as recited in claim 10, further comprising:

a sensor which indicates a loss of pressure within said housing or said second housing;

a sensor which indicates whether said movable platform is in the jump position;

5 a source of compressible fluid;  
6 a supply line between said source and said fluid supply valve associated with said  
7 housing;  
8 a blocking valve in said supply line;  
9 a second supply line between said source and said fluid supply valve associated  
10 with said second housing;  
11 a blocking valve in said second supply line;  
12 a sensor for detecting whether the movable platform is in the jump position; and  
13 a microprocessor in communication with said sensors and with said fluid supply  
14 valves that will activate the blocking valve in the appropriate supply line if an  
15 unacceptable loss of pressure occurs within said housing or said second housing and will  
16 not allow the fluid supply valves to supply fluid until the movable platform has been  
17 moved away from the jump position.

1 12. The oscillatory amusement ride as recited in claim 10, wherein:  
2 said force transferring means associated with said housing and said force  
3 transferring means associated with said second housing are rotatably attached to said  
4 holder.  
1 13. The oscillatory amusement ride as recited in claim 12, further comprising:  
2 a sensor which indicates a loss of pressure within said housing or said second  
3 housing;  
4 a sensor which indicates whether said movable platform is in the jump position;  
5 a source of compressible fluid;  
6 a supply line between said source and said fluid supply valve associated with said  
7 housing;  
8 a blocking valve in said supply line;  
9 a second supply line between said source and said fluid supply valve associated  
10 with said second housing;  
11 a blocking valve in said second supply line;  
12 a sensor for detecting whether the movable platform is in the jump position; and

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13           a microprocessor in communication with said sensors and with said fluid supply  
14 valves that will activate the blocking valve in the appropriate supply line if an  
15 unacceptable loss of pressure occurs within said housing or said second housing and will  
16 not allow the fluid supply valves to supply fluid until the movable platform has been  
17 moved away from the jump position.

1       14.    The oscillatory amusement ride as recited in claim 9, wherein:  
2           said force transferring means associated with said housing and said force  
3 transferring means associated with said second housing are rotatably attached to said  
4 holder.

1       15.    The oscillatory amusement ride as recited in claim 1, further comprising:  
2           a valve in the side of said housing communicating with the atmosphere and with  
3 the bore of said housing.

1       16.    The oscillatory amusement ride as recited in claim 15, further comprising:  
2           a fluid supply valve between said piston and the first end of said housing.

1       17.    The oscillatory amusement ride as recited in claim 16, further comprising:  
2           a separate supply valve located between the piston and the first end of said  
3 housing.

1       18.    The oscillatory amusement ride as recited in claim 15, further comprising:  
2           a second housing having a bore, a closed first end containing an aperture, a  
3 second end, and a side;

4           a piston slidably mounted within the bore of said second housing;  
5           a means for transferring force between said piston within said second housing and  
6 said holder passing through the aperture in the closed first end of said second housing,  
7 wherein said second housing is capable of retaining a compressed fluid between the  
8 closed first end of said second housing and the piston within said second housing for at  
9 least one oscillation of the piston within said second housing; and

10          a valve in the side of said second housing communicating with the atmosphere  
11 and with the bore of said second housing.

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- 2 19. The oscillatory amusement ride as recited in claim 18, wherein:  
3 said force transferring means associated with said housing and said force  
4 transferring means associated with said second housing are rotatably attached to said  
5 holder.
- 1 20. The oscillatory amusement ride as recited in claim 17, further comprising:  
2 a second housing having a bore, a closed first end containing an aperture, a  
3 second end, and a side;  
4 a piston slidably mounted within the bore of said second housing;  
5 a means for transferring force between said piston within said second housing and  
6 said holder passing through the aperture in the closed first end of said second housing,  
7 wherein said second housing is capable of retaining a compressed fluid between the  
8 closed first end of said second housing and the piston within said second housing for at  
9 least one oscillation of the piston within said second housing;  
10 a valve in the side of said second housing communicating with the atmosphere  
11 and with the bore of said second housing;  
12 a fluid supply valve between said piston within the bore of said second housing  
13 and the first end of said second housing; and  
14 a separate supply valve located between the piston within the bore of said second  
15 housing and the first end of said second housing.
- 1 21. The oscillatory amusement ride as recited in claim 20, further comprising:  
2 a movable platform from which a participant can jump or fall.
- 1 22. The oscillatory amusement ride as recited in claim 21, further comprising:  
2 a sensor which indicates a loss of pressure within said housing or said second  
3 housing;  
4 a sensor which indicates whether said movable platform is in the jump position;  
5 a source of compressible fluid;  
6 a supply line between said source and said fluid supply valve associated with said  
7 housing;  
8 a blocking valve in said supply line;



- 1 25. The oscillatory amusement ride as recited in claim 20, wherein:  
2 said force transferring means associated with said housing and said force  
3 transferring means associated with said second housing are rotatably attached to said  
4 holder.
- 1 26. An oscillatory amusement ride, which comprises:  
2 a housing having a bore, a closed first end containing an aperture, a second end,  
3 and a side;  
4 a piston slidably mounted within the bore;  
5 a holder for a participant;  
6 a cable that exits said housing through the aperture in the closed first end of said  
7 housing and re-enters said housing through the second end of said housing, said cable  
8 being attached to said piston within said second housing; and  
9 a means for transferring force between said cable associated with said second  
10 housing and said holder passing through the aperture in the closed first end of said second  
11 housing, wherein said housing is capable of retaining a compressed fluid between the  
12 closed first end and the piston for at least one oscillation of the piston.
- 1 27. The oscillatory amusement ride as recited in claim 26, wherein:  
2 said housing contains an aperture in the side of said housing communicating with  
3 the atmosphere and with the bore of said housing.
- 1 28. The oscillatory amusement ride as recited in claim 27, further comprising:  
2 a fluid supply valve between said piston and the first end of said housing.
- 1 29. The oscillatory amusement ride as recited in claim 28, further comprising:  
2 a separate supply valve located between the piston and the first end of said  
3 housing.
- 1 30. The oscillatory amusement ride as recited in claim 26, further comprising:  
2 a fluid supply valve between said piston and the first end of said housing.
- 1 31. The oscillatory amusement ride as recited in claim 30, further comprising:  
2 a separate supply valve located between the piston and the first end of said  
3 housing.
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- 1 32. The oscillatory amusement ride as recited in claim 27, further comprising:  
2 a second housing having a bore, a closed first end containing an aperture, a  
3 second end, and a side;  
4 a piston slidably mounted within the bore of said second housing;  
5 a cable that exits said second housing through the aperture in the closed first end  
6 of said second housing and re-enters said second housing through the second end of said  
7 second housing, said cable being attached to said piston within said second housing; and  
8 a means for transferring force between said cable associated with said second  
9 housing and said holder passing through the aperture in the closed first end of said second  
10 housing, wherein said second housing is capable of retaining a compressed fluid between  
11 the closed first end of said second housing and the piston within said second housing for  
12 at least one oscillation of the piston within said second housing and wherein said second  
13 housing contains an aperture in the side of said second housing communicating with the  
14 atmosphere and with the bore of said second housing.
- 1 33. The oscillatory amusement ride as recited in claim 32, wherein:  
2 said force transferring means associated with said housing and said force  
3 transferring means associated with said second housing are rotatably attached to said  
4 holder.
- 1 34. The oscillatory amusement ride as recited in claim 29, further comprising:  
2 a second housing having a bore, a closed first end containing an aperture, a  
3 second end, and a side;  
4 a piston slidably mounted within the bore of said second housing;  
5 a cable that exits said second housing through the aperture in the closed first end  
6 of said second housing and re-enters said second housing through the second end of said  
7 second housing, said cable being attached to said piston within said second housing;  
8 a means for transferring force between said cable associated with said second  
9 housing and said holder; and  
10 a means for transferring force between said piston within said second housing and  
11 said holder passing through the aperture in the closed first end of said second housing,  
12 wherein said second housing is capable of retaining a compressed fluid between the



closed first end of said second housing and the piston within said second housing for at least one oscillation of the piston within said second housing and wherein said second housing contains an aperture in the side of said second housing communicating with the atmosphere and with the bore of said second housing;

a fluid supply valve between said piston within the bore of said second housing and the first end of said second housing; and

a separate supply valve located between the piston within the bore of said second housing and the first end of said second housing.

35. The oscillatory amusement ride as recited in claim 34, further comprising:

a movable platform from which a participant can jump or fall.

36. The oscillatory amusement ride as recited in claim 35, further comprising:

a sensor which indicates a loss of pressure within said housing or said second housing;

a sensor which indicates whether said movable platform is in the jump position;

a source of compressible fluid;

a supply line between said source and said fluid supply valve associated with said housing;

a blocking valve in said supply line;

a second supply line between said source and said fluid supply valve associated with said second housing;

a blocking valve in said second supply line;

a sensor for detecting whether the movable platform is in the jump position; and

a microprocessor in communication with said sensors and with said fluid supply valves that will activate the blocking valve in the appropriate supply line if an unacceptable loss of pressure occurs within said housing or said second housing and will not allow the fluid supply valves to supply fluid until the movable platform has been moved away from the jump position.

- 1 37. The oscillatory amusement ride as recited in claim 35, wherein:  
2 said force transferring means associated with said housing and said force  
3 transferring means associated with said second housing are rotatably attached to said  
4 holder.
- 1 38. The oscillatory amusement ride as recited in claim 37, further comprising:  
2 a sensor which indicates a loss of pressure within said housing or said second  
3 housing;  
4 a sensor which indicates whether said movable platform is in the jump position;  
5 a source of compressible fluid;  
6 a supply line between said source and said fluid supply valve associated with said  
7 housing;  
8 a blocking valve in said supply line;  
9 a second supply line between said source and said fluid supply valve associated  
10 with said second housing;  
11 a blocking valve in said second supply line;  
12 a sensor for detecting whether the movable platform is in the jump position; and  
13 a microprocessor in communication with said sensors and with said fluid supply  
14 valves that will activate the blocking valve in the appropriate supply line if an  
15 unacceptable loss of pressure occurs within said housing or said second housing and will  
16 not allow the fluid supply valves to supply fluid until the movable platform has been  
17 moved away from the jump position.
- 1 39. The oscillatory amusement ride as recited in claim 34, wherein:  
2 said force transferring means associated with said housing and said force  
3 transferring means associated with said second housing are rotatably attached to said  
4 holder.
- 1 40. The oscillatory amusement ride as recited in claim 26, further comprising:  
2 a valve in the side of said housing communicating with the atmosphere and with  
3 the bore of said housing.
- 1 41. The oscillatory amusement ride as recited in claim 40, further comprising:  
2 a fluid supply valve between said piston and the first end of said housing.

1       42.     The oscillatory amusement ride as recited in claim 41, further comprising:  
2             a separate supply valve located between the piston and the first end of said  
3     housing.

1       43.     The oscillatory amusement ride as recited in claim 40, further comprising:  
2             a second housing having a bore, a closed first end containing an aperture, a  
3     second end, and a side;  
4             a piston slidably mounted within the bore of said second housing;  
5             a cable that exits said second housing through the aperture in the closed first end  
6     of said second housing and re-enters said second housing through the second end of said  
7     second housing, said cable being attached to said piston within said second housing;  
8             a means for transferring force between said cable associated with said second housing  
9     and said holder passing through the aperture in the closed first end of said second  
10    housing, wherein said second housing is capable of retaining a compressed fluid between  
11    the closed first end of said second housing and the piston within said second housing for  
12    at least one oscillation of the piston within said second housing; and  
13             a valve in the side of said second housing communicating with the atmosphere  
14    and with the bore of said second housing.

1       44.     The oscillatory amusement ride as recited in claim 43, wherein:  
2             said force transferring means associated with said housing and said force  
3     transferring means associated with said second housing are rotatably attached to said  
4     holder.

1       45.     The oscillatory amusement ride as recited in claim 42, further comprising:  
2             a second housing having a bore, a closed first end containing an aperture, a  
3     second end, and a side;  
4             a piston slidably mounted within the bore of said second housing;  
5             a means for transferring force between said piston within said second housing and  
6     said holder passing through the aperture in the closed first end of said second housing,  
7     wherein said second housing is capable of retaining a compressed fluid between the  
8     closed first end of said second housing and the piston within said second housing for at  
9     least one oscillation of the piston within said second housing;

1            46.    The oscillatory amusement ride as recited in claim 45, further comprising:

2 a movable platform from which a participant can jump or fall.

1            47.    The oscillatory amusement ride as recited in claim 46, further comprising:

2                   a sensor which indicates a loss of pressure within said housing or said second  
3           housing;

4 a sensor which indicates wheth  
5 a source of compressible fluid;

8 a blocking valve in said supply line;

9                   a second supply line between said source and said fluid supply valve associated  
10                  with said second housing;

11 a blocking valve in said second supply line;

12 a sensor for detecting whether the movable platform is in the jump position; and

13 a microprocessor in communication with said sensors and with said fluid supply  
14 valves that will activate the blocking valve in the appropriate supply line if an  
15 unacceptable loss of pressure occurs within said housing or said second housing and will  
16 not allow the fluid supply valves to supply fluid until the movable platform has been  
17 moved away from the jump position.

1           48.    The oscillatory amusement ride as recited in claim 46, wherein:

2           said force transferring means associated with said housing and said force  
3           transferring means associated with said second housing are rotatably attached to said  
4           holder.

1 49. The oscillatory amusement ride as recited in claim 48, further comprising:  
2 a sensor which indicates a loss of pressure within said housing or said second  
3 housing;  
4 a sensor which indicates whether said movable platform is in the jump position;  
5 a source of compressible fluid;  
6 a supply line between said source and said fluid supply valve associated with said  
7 housing;  
8 a blocking valve in said supply line;  
9 a second supply line between said source and said fluid supply valve associated  
10 with said second housing;  
11 a blocking valve in said second supply line;  
12 a sensor for detecting whether the movable platform is in the jump position; and  
13 a microprocessor in communication with said sensors and with said fluid supply  
14 valves that will activate the blocking valve in the appropriate supply line if an  
15 unacceptable loss of pressure occurs within said housing or said second housing and will  
16 not allow the fluid supply valves to supply fluid until the movable platform has been  
17 moved away from the jump position.

1 50. The oscillatory amusement ride as recited in claim 45, wherein:  
2 said force transferring means associated with said housing and said force  
3 transferring means associated with said second housing are rotatably attached to said  
4 holder.

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